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THE FARM INDEX

ECONOMIC RESEARCH SERVICE ★ U.S. DEPARTMENT OF AGRICULTURE ★ FEBRUARY 1966

RESERVE

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also in this issue:

The Automatic Abacus

Churning Up Sales for Fluid Milk

*Our Favorable Balance
of Farm Trade*

Food Aid at Home: Here to Stay



four decades in American agriculture

1820 - 1840

1940 - 1960



economic trends

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1964		1965		
			YEAR	DECEMBER	OCTOBER	NOVEMBER	DECEMBER
Prices:							
Prices received by farmers	1910-14 = 100	242	236	234	248	248	259
Crops	1910-14 = 100	223	238	234	220	218	223
Livestock and products	1910-14 = 100	258	235	234	273	274	289
Prices paid, interest, taxes and wage rates	1910-14 = 100	293	313	313	322	322	324
Family living items	1910-14 = 100	286	300	301	305	307	309
Production items	1910-14 = 100	262	270	269	276	276	278
Parity ratio		83	76	75	77	77	80
Wholesale prices, all commodities	1957-59 = 100	—	100.5	100.7	103.1	103.5	104.1
Commodities other than farm and food	1957-59 = 100	—	101.2	101.8	102.8	103.2	103.2
Farm products	1957-59 = 100	—	94.3	92.7	99.4	100.3	103.0
Food, processed	1957-59 = 100	—	101.0	100.8	106.9	107.6	109.4
Consumer price index, all items	1957-59 = 100	—	108.1	108.8	110.4	110.6	—
Food	1957-59 = 100	—	106.4	106.9	109.7	109.7	—
Farm Food Market Basket:¹							
Retail cost	Dollars	983	1,014	1,019	1,048	1,048	—
Farm value	Dollars	388	374	379	416	415	—
Farm-retail spread	Dollars	595	640	640	632	633	—
Farmers' share of retail cost	Per cent	39	37	37	40	40	—
Farm Income:							
Volume of farm marketings	1957-59 = 100	—	118	135	181	160	132
Cash receipts from farm marketings	Million dollars	32,247	36,899	3,479	4,923	4,287	3,700
Crops	Million dollars	13,766	17,135	1,859	2,770	2,208	1,800
Livestock and products	Million dollars	18,481	19,764	1,620	2,153	2,079	1,900
Realized gross income ²	Billion dollars	—	42.2	42.1	—	—	45.5
Farm production expenses ²	Billion dollars	—	29.3	29.0	—	—	31.1
Realized net income ²	Billion dollars	—	12.9	13.1	—	—	14.4
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	6,347	669	587	652	—
Agricultural imports	Million dollars	3,977	4,082	371	411	399	—
Land Values:							
Average value per acre	1957-59 = 100	—	—	137 ³	—	145	—
Total value of farm real estate	Billion dollars	—	—	157.8 ³	—	165.4	—
Gross National Product²							
Consumption ²	Billion dollars	457.3	628.7	641.1	—	—	694.6
Investment ²	Billion dollars	294.2	398.9	405.9	—	—	440.1
Government expenditures ²	Billion dollars	68.0	92.9	97.7	—	—	107.5
Net exports ²	Billion dollars	92.4	128.4	128.6	—	—	139.6
2.7	8.6	8.9	—	—	—	—	7.4
Income and Spending:⁴							
Personal income, annual rate	Billion dollars	365.3	495.0	512.0	541.3	546.1	550.5
Total retail sales, monthly rate	Million dollars	17,105	21,802	21,661	23,959	24,013	24,303
Retail sales of food group, monthly rate	Million dollars	4,159	5,183	5,258	5,670	5,590	—
Employment and Wages:⁴							
Total civilian employment	Millions	64.9	70.4	71.0	72.5	72.8	73.4
Agricultural	Millions	6.0	4.8	4.5	4.6	4.2	4.4
Rate of unemployment	Per cent	5.5	5.2	5.0	4.3	4.2	4.1
Workweek in manufacturing	Hours	39.8	40.7	41.2	41.2	41.4	41.4
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.53	2.58	2.63	2.65	2.66
Industrial Production⁴							
1957-59 = 100	—	132	138	144	146	146	148
Manufacturers' Shipments and Inventories:⁴							
Total shipments, monthly rate	Million dollars	28,745	37,129	39,318	40,548	41,447	—
Total inventories, book value end of month	Million dollars	51,549	62,944	62,944	66,642	67,079	—
Total new orders, monthly rate	Million dollars	28,365	37,697	39,590	41,843	42,266	—

¹ Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1960-61—estimated monthly. ² Annual rates seasonally adjusted fourth quarter. ³ As of November 1. ⁴ Seasonally adjusted.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Industry Survey, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

THE AGRICULTURAL OUTLOOK

Although total land in farms—including idle land as well as that actually cropped or grazed—has declined only slightly in recent years, the number of farms has been declining steadily and average farm size has been rising.

An overall decline of a little less than 3 per cent from 1964 brought the number of farms in operation during 1965 down to 3.4 million. The number of farms remained unchanged in only three states.

However, the national rate of decline in farm numbers has been easing off. The loss between 1959 and 1960 was 3.6 per cent, but numbers may fall less than 2.8 per cent between 1965 and 1966.

With the number of farms dropping faster than total acreage in farms, the average farm operator in 1966 manages a farm unit of 350 acres—a fifth more than seven years earlier.

Commodity Highlights

Milk production in 1965 is estimated at 125.5 billion pounds, down 1 per cent from the 1964 record. Production per cow was a record 8,037 pounds, up 2 per cent from a year earlier. But this increase was sharply below the 3.4 per cent annual average gain during 1955-64. The increase narrowed during the year and in December output per cow was below a year earlier for the first time in 10 years.

Butter and nonfat dry milk output for 1965 fell 7 and 8 per cent, respectively. Stocks of manufactured dairy products at the beginning of 1966 were about 1 billion pounds (milk equivalent) below a year earlier, due to smaller output and higher domestic use.

Milk production is likely to continue below a year earlier during the first quarter of 1966. Lower butter production than a year earlier is expected in 1966 but fluid milk sales and cheese output are likely to increase.

Based on monthly prices, farmers received an

average of \$4.25 per 100 pounds for all wholesale milk during 1965, up 9 cents from 1964. In early 1966 farm prices likely will continue above the same period of 1965.

Egg supplies in commercial markets in the past few months have been less than a year ago. Greater use of eggs for hatching, increased military procurement and exports, and a downturn in production combine to create the tightness in supply. Consequently, prices received by farmers for eggs in the fourth quarter of 1965, at an average of 38.5 cents per dozen, were up 4.6 cents from October-December 1964. Tighter supplies and prices higher than the unusually low prices of a year earlier likely will continue through the first quarter of 1966.

Recent hatchery activity indicates an even more rapid rise in **poultry** meat production over the next several months than the 10 per cent rise of the second half of 1965. Producers have been responding to the vigorous expansion in poultry meat demand, due to lower pork supplies, higher consumer incomes and rising military procurements.

Numbers of broiler chicks placed in 23 states in the 13 weeks ended January 15 (mostly for marketings in the first quarter of 1966) were 13 per cent above a year earlier. Also, there were very sharp increases in November and December in pullet placements by hatcheries supplying eggs for broiler production—pointing to intentions for large production gains later in 1966.

If demand keeps expanding, as expected, this increased production activity may not bring about lower poultry prices in the early part of 1966. However, as hog output builds up in the second half, poultry prices likely will respond to the increased meat supplies.

The 1965/66 total supply of flue-cured tobacco

—the leading cigarette and export tobacco—is down 4 per cent from the record 1964/65 level. The substantial cut in production in 1965 more than offset the rise in carryover which had reached a high in mid-1965. Carryover by mid-1966 will show a sizable decline.

In 1966, for the second year, flue-cured tobacco is under the acreage-poundage program. The 1966 national flue-cured marketing quota has been set at the same level as for 1965. Though the national quota is unchanged, marketings in 1966 are expected to be larger than in 1965 because growers who marketed less than their quota in 1965 are entitled, under the program, to make this up during the 1966 marketing season. Those who overmarketed in 1965 will have the excess deducted from their 1966 marketing quotas. However, undermarketings were significantly larger than overmarketings.

The 1965/66 total supply of burley tobacco — second-ranking cigarette tobacco — is only slightly below the 1964/65 record. With 1965 yields per acre averaging the second highest on record on a national basis, production is down by less than the 9½ per cent reduction in acreage.

The 1965/66 citrus crop is expected to be about a tenth larger than the 1964/65 crop and somewhat above average. In mid-January grower prices for citrus fruits continued below year-earlier levels. Orange prices were down considerably from a year earlier.

Growing conditions for the 1965/66 citrus crop to late January were generally good to excellent. The late January freezes in Florida and Texas were not expected to result in any material decline in orange and grapefruit production. But remaining supplies of Temple oranges, Murrcott oranges and tangelos (a minor part of total citrus production) were reduced sharply.

Prospects still continue good for moderately to substantially larger orange, grapefruit and lemon crops than in the 1964/65 crop year. Increased output of major processed citrus items

is expected and retail prices of citrus juices are expected to remain somewhat below those in the first half of 1965.

Total noncitrus fruit production in 1965 was about 3 per cent above 1964 and 14 per cent above average. But the increase was due almost entirely to record grape production.

Unfavorable weather severely cut the pear, cherry and California clingstone peach crops below 1964 levels. Substantial reductions also occurred in the 1965 crops of prunes, dates, figs and strawberries. The 1966 Florida winter crop of strawberries, now being harvested, is expected to be about a third below the large 1965 winter crop. Prospective spring strawberry acreage is up a little.

Though still the fourth largest ever produced, the 1965/66 pack of canned deciduous fruits is about 16 per cent below the record 1964/65 pack. Reductions are especially large for canned peaches, pears, fruit cocktail and red tart cherries.

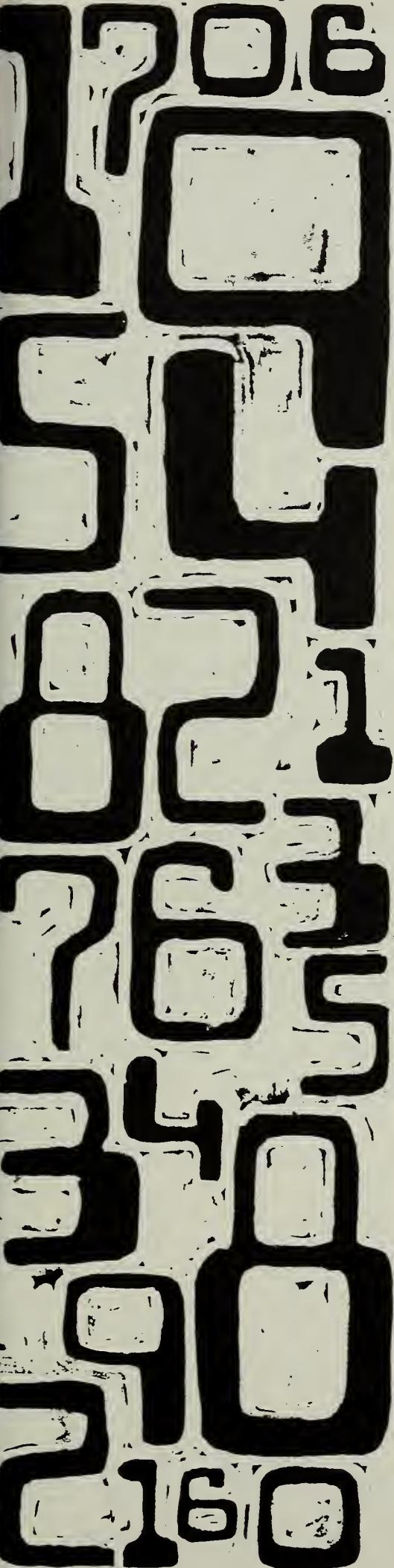
The rice supply and disappearance pattern of the past three years—that of increasing U.S. production matched by rising exports—is likely to be repeated in the 1965/66 marketing year (August-July). The 1965 crop was up nearly 4 million hundredweight (cwt.) from the year before to a record 76.9 million cwt. The increase resulted almost entirely from a higher average yield of 4,291 pounds per acre, almost 200 pounds above 1964.

Exports this year are expected to top the record 42.5 million cwt. (rough basis) of 1964/65, with most of the increase in commercial exports.

Domestic use of rice in 1965/66 is expected to continue its longtime upward trend and be fractionally above 31 million cwt. of 1964/65. Seed and industrial uses will be virtually unchanged but food use is increasing because of rising population and rising per capita consumption. New rice products and the greater use of rice by the breakfast cereal industry are contributing factors.

THE AUTOMATIC ABACUS

A fast and faultless figurer, a computer comes in handy in assisting farmers with record keeping and analysis.



When it comes to helping farmers with their paperwork, a computer can be a real asset. And the 10,000 American farmers who last year participated in some system for computerized farm records can attest to this fact.

Here's a brief list of some of the computer services available for individual farms—and where and how they may be obtained.

Services offered through experiment stations and extension offices: In 1965 sixteen agricultural experiment stations or extension services offered some form of computer service to farmers in 32 states. And two more states plan to start their own processing centers this year.

In most cases, the service is of a general record keeping and analysis nature. But a few states also project individual farm budgets to help farmers with their future planning. The projections are usually based upon enterprise records.

Two states provide specialized services for operators of certain types of farms. For instance, North Carolina's computer service is limited entirely to dairy enterprises. In Arizona, the emphasis is on total financial enterprise records as well as special emphasis on work with dairy and poultry enterprises.

Dairy farmers can use the Dairy Herd Improvement Association's (DHIA) computer—an organization set up and run by USDA's Agricultural Research Service through 12 state and regional computer centers. The DHIA computers store production records from hundreds of thousands of dairy cows in all 50 states in order to pinpoint the best milk producers and help dairymen

build up more productive herds.

Farmers interested in any of these computer programs may contact their county extension office. The services are usually provided at a slight charge to cover the cost of electronic data processing and any extension work or training necessary.

Services offered by farm and producer organizations: In 1964, 16 state offices of the Farm Bureau were offering their members some form of accounting or record analysis service on a charge basis. Seven of the 16 provided financial analysis and tax accounting; eight offered farm management analysis and tax accounting; one office provided both.

For beef producers, a nonprofit cattlemen's organization in the Far West has developed a program similar to that of the DHIA in which beef breeding animals are evaluated in terms of the weight-gaining performance of the bull's offspring.

This organization, the Performance Registry International of Denver, hopes soon to be able to expand its service by feeding into its computer reports from slaughterhouses and retailers on meat quality. By matching these reports with data on the source of meat, the computer will further help cattlemen to single out their best breeding stock.

Services offered by trade organizations: A number of trade organizations are now offering computer services oriented along the lines of the product they are selling. For example, at least one large fertilizer company is currently determining the top-profit combinations of new fertilizer, present soil fertility, soil moisture, plant population and levels

of irrigation for farmers in the Corn Belt and west Texas.

Feed companies are using computers to help formulate least-cost rations according to farmers' specifications. For example, it takes only two and one-half minutes for a computer to formulate the most economical ration for a customer who sets his minimum requirements at 16 nutrients. (1)

No Magic but Good at Mathematics, Computers Aid in Planning Production

Though computers are undoubtedly valuable in farm accounting and record analysis, they are perhaps even more helpful to farmers when it comes to planning future production.

A computer can consider many hundreds, even thousands, of variables that can affect a farm enterprise and come up with the best answer based on a given set of conditions. This set of conditions—prices, weather and so forth—can be varied according to the judgment of the farmer and many different solutions can be run over a very short period of time. From these solutions, the farmer can then choose the one that he feels will suit his forecast.

To date, there has been little work on decision-making analysis—linear programming or mathematical programming—for individual farms. But more and more organizations which offer computer services to farmers are adding or planning to add some form of predictive programming to supplement the other services.

In order to take advantage of predictive programming services, farmers must be able to feed into the computer detailed input-output data. For some farmers this may necessitate changing their method of record keeping from general farm accounting to enterprise cost accounting—which shows income, costs and profit or loss for each enterprise in a diversified farm business.

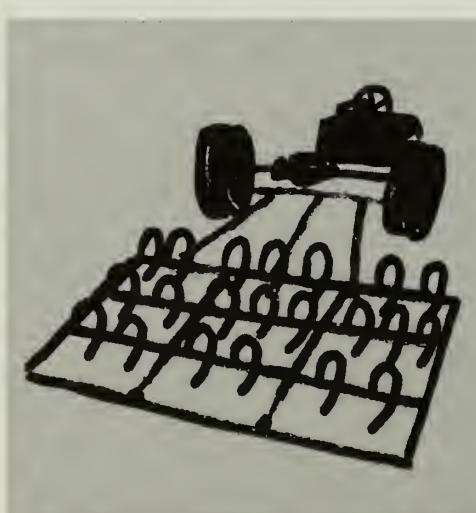
With the help of a farm management specialist or commercial field service man, a farmer can work up the necessary input-output coefficients for use in a computer. The field man can also help the farmer specify special restraints and resource limitations (such as building capacity, land grades and labor by special periods) which are not already a part of the record system.

Once all this information is fed into the computer, a farmer can obtain two types of solutions. The first is generally a short-run solution for the year ahead. Such analysis uses short-term projections, the existing resource base and built-in restraints which preclude drastic changes in the farm business. The second type of solution possible is a long-run projection, with long-range price projections and far greater freedom in the resource base.

A farmer can also have the computer recheck long-range solutions from time to time, just in case new production technologies, the availability of new resources or changes in price relationships invalidate the old solution. (2)

HARROW: The annual costs of using a springtooth harrow include depreciation (based on the amount allowed for tax purposes) and an estimate of the charges for repairs, shelter, insurance, taxes and interest. Divide by the number of acres the equipment covers each year (allowing for going over a field more than once) to get the total cost per acre.

Tractor costs must be added to obtain the real expense per acre for the operation. In a 1960 survey of wheat farms in northeastern Colorado from which all the figures were taken, tractor costs ranged from \$1.98 to \$2.76 an hour, depending on the size used. (See August 1965 for the table of tractor costs.) (4)



ATTENTION, SENIOR CITIZENS

Action Is Urged Now So Medicare Will Pay Most Medical Expenses

If you were 65 before January 1 this year, March 31 is the last day you can sign up for Medicare's voluntary doctor and medical insurance.

Don't confuse this with Medicare's hospital insurance. That's automatic if you're covered by social security or railroad retirement. If you're not covered you're still eligible, but should contact your local social security office.

The voluntary doctor and medical insurance requires action on your part. You've probably already received an application form from the Social Security Administration. If not, call your local office.

Under Medicare you can use your own doctor. You can go to the hospital where your doctor sends his patients.

Beginning July 1, Medicare will pay many of your hospital and doctor expenses. Remember, the sign-up deadline for the voluntary coverage is March 31. (3)

Size in feet	16	20
Cost when new	\$270	\$301
Investment in 1960	\$148	\$166
Acres of use annually	204	207
Annual fixed costs:		
Depreciation ¹	\$7.15	\$7.13
Repairs	5.29	5.25
Shelter, insurance, taxes	2.80	3.11
Interest ²	11.84	13.28
Total	\$27.08	\$28.77
Per acre	\$13	\$14
Size of tractor in bottoms		
4 or 5	4 or 5	
Hours per acre	0.15-0.13	0.13-0.12

¹ The cost when new less 10 per cent—the remainder divided by estimated years of use. ² Eight per cent.

Downswing in Hog Production Ends As Producers Respond to Higher Prices

Higher hog prices in 1965 brought about a step-up in pig production in late 1965 which is expected to continue throughout this year. Thus, hog producers have taken steps to end the downswing in production that started late in 1963.

With prices received by farmers in 1965 averaging about 36 per cent higher than in 1964, producers last December 1 indicated they would probably have 6 per cent more sows farrow during December 1965-May 1966 than in the same period the year before.

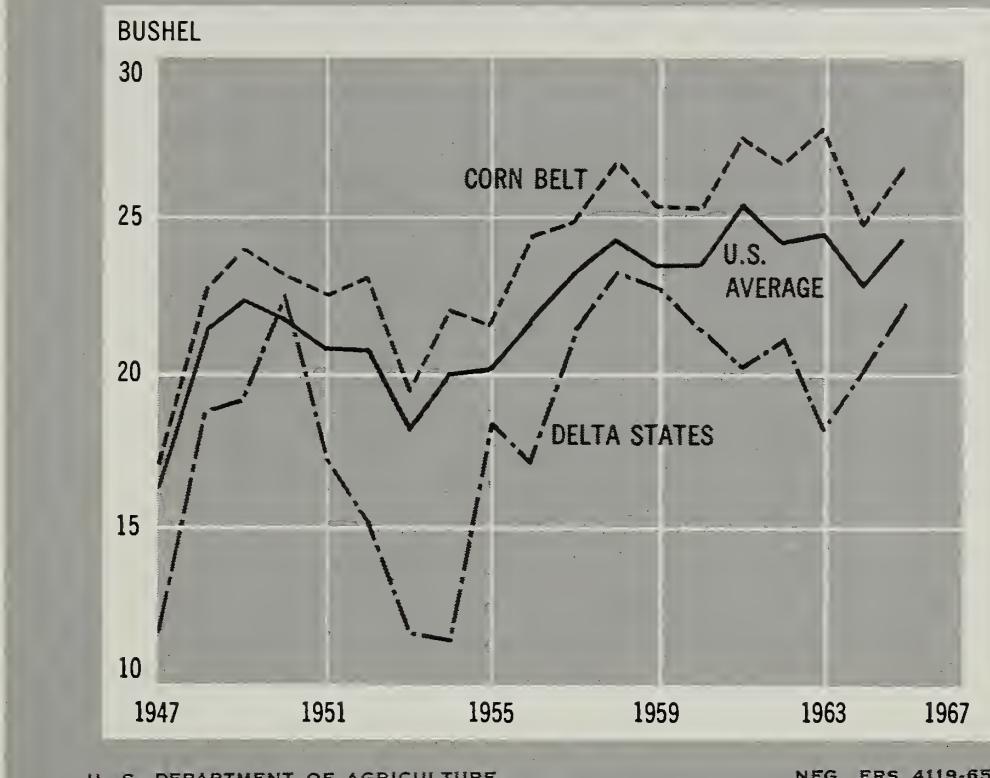
On a regional basis, sow farrowings are indicated to increase by about 13 per cent in the South Atlantic and South Central; 7 per cent in the West; 6 per cent in the East North Central; 5 per cent in the West North Central and 2 per cent in the North Atlantic. If these intentions are realized, this would bring about a modest increase in the 1966 spring pig crop.

But even though producers are increasing output this year in response to higher prices, they seem to be exercising more caution than they often have in the past. Apparently over-expansion in other years when prices were favorable has convinced most producers that too large and too rapid a build-up in hog output will severely depress prices.

For example, the modest increase in hog production now indicated probably will lead to only a small pickup in hog slaughter in the second half of 1966. In this event, prices then would decline only moderately from the high prices last summer and fall.

However, other factors contributing to the slowness in production response to price changes this year appear to be (1) higher production costs for items other than corn or other feeds and (2) more specialization in hog production, which tends to stabilize output. (5)

U. S. SOYBEAN YIELDS HOVER NEAR 25 BUSHELS



Soybean Yields Bog Down; Search On For Ways to Break 25-Bushel Barrier

Breaking the soybean yield barrier is becoming one of agriculture's biggest challenges.

Soybeans have been produced in the U.S. for well over 40 years—but our national yields have never appreciably exceeded 25 bushels per acre. Right after World War II there was a brief yield take-off—largely because of improved varieties and more efficient machinery in harvesting.

But around 1957 yields bogged down again. And for the past nine years they have been at a relative standstill with the U.S. average varying between 23 bushels and the record 25.2 bushels in 1961. 1965 crop yields were estimated at about 24.4 bushels per acre.

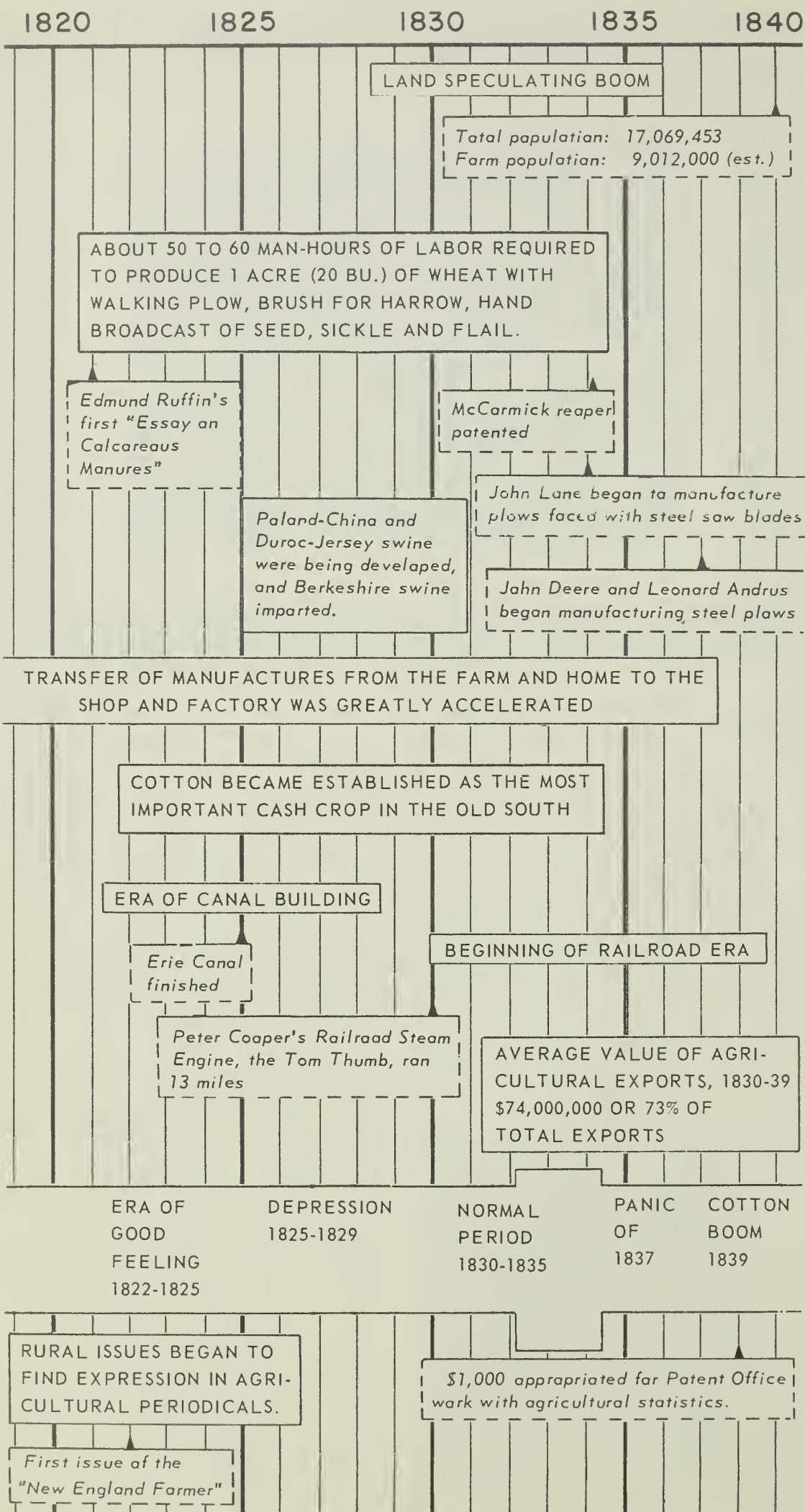
The reason soybean yields are so important is that both domestic and foreign demand for soybeans and soybean products have been increasing at a rapid rate in recent years. In total value, soybeans currently stand third among U.S. cash crops—outranked only

by cotton and corn. And during the past three marketing years, exports of soybeans (including soybean oil and meal) returned more dollars to the U.S. than any other single agricultural commodity. Our soybean exports have represented close to 95 per cent of total world exports.

Economists figure that by 1970 total demand (both domestic and foreign) is likely to require an annual U.S. soybean crop of more than a billion bushels.

So far, the need for greater soybean production has been met by expanding acreage. Since World War II, soybean acreage has tripled while production has quadrupled. The 1965 crop is estimated to be record large at 844 million bushels—but harvested acreage is also at an all-time high.

A combination of basic and applied research is needed on all phases of soybean production if the yield barrier is to be broken. USDA is expanding its basic farm research program in such areas as culture, breeding, diseases, variety evaluation, and control of pests, weeds and nematodes. (6)



FOUR DECADES IN AMERICAN AGRICULTURE

American agriculture has developed in a changing world. Its tremendous increase in efficiency has become inseparably intertwined with an increasingly urban-oriented economy.

During the period 1820 to 1840, the country experienced a depression, a normal interlude and a panic in 1837, followed by an upsurge of prosperity in cotton growing. Commercial and agricultural interests became more widely separated.

Rural issues were discussed in the new agricultural journals that became more common following the publication of the *American Farmer* in 1819.

Some schools and colleges began offering courses in agriculture or related sciences, a movement that grew and developed into agitation for specialized colleges, supported in part by federal grants of land.

The demand for agricultural products was growing as American industry expanded and overseas exports increased. American inventors responded by designing tools that could use animal power instead of human labor.

Out of the process of trial and error came those machines that serve, with adaptations and improvements, as some of our basic tools today. In 1834, Cyrus McCormick patented a reaping machine. In 1837, a practical threshing machine was patented.

Meanwhile, John Lane and John Deere were manufacturing steel plows, a great boon in preparing prairie soil for farming.

Canal and railroad construction provided avenues for migration into areas where the new equipment could be efficiently used to produce larger crops. At the same time, adoption of the new equipment released farm labor to work in the growing urban and industrial sector.

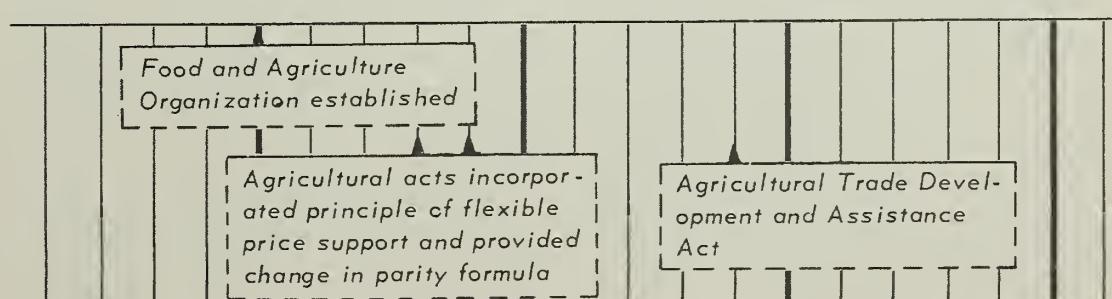
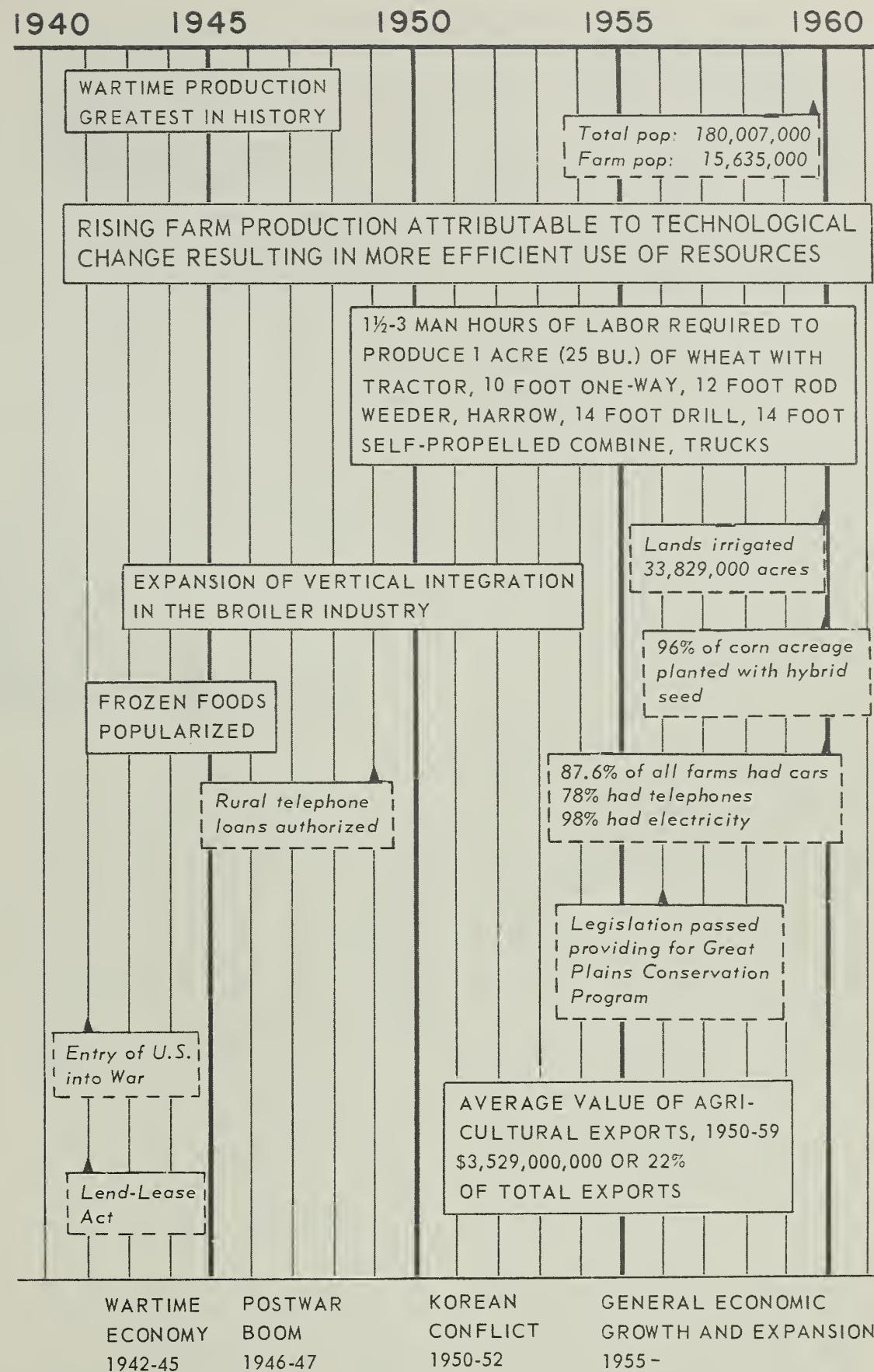
In 1820, it took 50 to 60 man-hours to produce 20 bushels of wheat on an acre. By 1960, this efficiency had reached the point where only 1½ to 3 man-hours were needed to produce 25 bushels of wheat on an acre. Similarly, the ratio of those gainfully employed in agriculture decreased from 72 per cent of the total population to 8 per cent in 1960.

During the two decades, 1940 to 1960, agricultural production responded to increased requirements. This was a period of a defense boom, followed by a wartime economy, readjustment, the Korean conflict, another readjustment and general economic growth and expansion after 1955.

The global war of the 1940s, following the reorientation of the 1930s, demanded a regrouping of production factors. Increased agricultural production in the following years was, in the main, attributable to technological changes and more efficient use of our resources—conversion from animal to tractor powered machinery, increased use of commercial fertilizers with greater attention to plant nutrients, more use of irrigated land, better crop varieties and improved livestock. The development of hybrid strains, beginning with corn, was of major importance.

Peace brought with it new international organizations and an awareness of a world where agricultural abundance and hunger coexisted. (7)

(THE CHARTS ON THESE PAGES HAVE BEEN EXCERPTED FROM THE RECENTLY REVISED "CHRONOLOGY OF AMERICAN AGRICULTURE, 1790-1965." WHILE THE SUPPLY LASTS, SINGLE COPIES OF THE MORE DETAILED, 2½- BY 4-FOOT ORIGINAL MAY BE OBTAINED BY SENDING A POSTCARD REQUEST TO: THE FARM INDEX, OFFICE OF MANAGEMENT SERVICES, U. S. DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C. 20250.)



CHURNING UP SALES FOR FLUID MILK

Advertising helps persuade the customer to open her purse a little wider, to buy more milk. But how do you get the most out of the advertising dollar? Market tests provide some guides to the effectiveness of promotion.

Cheese, frozen desserts, skim milk and the like have all been gaining in popular favor.

Unfortunately for the dairy industry, the popularity is in the nature of a transfer of allegiance, from such solid standbys as whole fluid milk, cream and butter to other not-so-solid, not-so-fattening dairy products.

Though dairymen are well aware of what is happening, they have a hard time doing much about it. Cows, unlike cars, can't be restyled easily to turn out a different product.

Somewhat further along the line, between the producer and the final customer, the number of options increases. One of the most obvious ones is to try to sell more milk.

In 1962, the dairy farmers decided to try to do just that. Specifically, they asked the American Dairy Association and ERS economists to help them find out whether they could increase their sales of fluid milk through stepped-up advertising campaigns and increase the sales enough to justify the extra cost.



The researchers used six market areas in Tennessee, New York, South Dakota, Kansas, Missouri and West Virginia for their tests. Testing was begun in March 1963 and continued through February 1965.

Nearly all types of advertising media were used in the campaigns, including radio, television, magazines, newspapers and billboards.

The study confirmed the belief that additional funds for promotion would bring in more money for the dairymen. But it also suggested that, pushed beyond a certain point, net returns on the advertising dollar would begin to drop.

Here's how the researchers went about measuring the effectiveness of the promotion campaigns.

First they set the levels of promotion expenditure to be studied. The dairy association working with the economists had been spending about 2 cents a year per person.

The researchers chose an expenditure of an additional 15 cents per person as representative of a moderate promotion campaign

and 30 cents for a more intensive one.

These increased expenditures were the equivalent of 4 cents and 7.5 cents per hundredweight for the milk produced in a typical market. They were chosen in the belief they could be maintained should the effort prove worthwhile.

By stepping up promotion activities to 15 cents per capita annually above current levels, sales were increased an average of 13,000 pounds per day per market, or by 4.5 per cent.

The heavy promotion calling for an additional 30 cents per capita annually increased sales by an average of 17,000 pounds per day per market, a 5.9 per cent increase.

Both increases included the immediate effect of promotion and the influence which carried over into the 6-month period following the campaign.

Though both campaigns increased sales, the medium level of promotion was the more profitable in terms of returns to dairy farmers.

The added revenue to dairy farmers from the medium level of promotion was \$398,580. This figure represents the increased quantity sold multiplied by the weighted average price differential between class I and class II milk in the six markets studied.

The cost of achieving this increase ran to \$237,530. The net return to farmers, thus, was \$161,050, or a return of 68 per cent on the added investment.

The higher level of promotion cost \$436,313 and produced \$521,220 in added revenue. The net profit was \$84,907, or a 19 per cent return on the added investment.

Net returns depend on the difference between class I and class II milk prices received by producers for delivered milk. For the cities studied, the weighted break-even price differential was \$1.32 per hundredweight for the medium level of promotion and \$1.85 per hundredweight for the heavy level of promotion expenditures. It would vary from market to market.

The break-even price would also vary among markets depending upon per capita promotion costs and per capita consumption. (8)

One Potato, Two Potato, Three Potato Four—U.S. Tuber Stores for '66 Soar

Potato supplies available for marketing during this winter and early spring are king-size. These are mainly 1965 fall crop potatoes, stored for later sale.

They reflect a record potato crop for the U.S. last fall. The 213.4-million-hundredweight harvest was 24 per cent larger than the small one of a year before.

Although bad weather hit crops in some parts of the East and Midwest, the national average yield—212 hundredweight per acre—was record high.

And reports indicate that 1966 winter crops in California and Florida will be the largest in

nearly a decade.

While the tubers are growing in the warm climates, cold storage holdings for frozen french fries are also at an all-time high, adding to the overall potato supply.

Stocks of potatoes on January 1, 1966, came to 123.3 million hundredweight. That's 30 per cent above last year's short supply and only a shade below the record holdings in 1962.

Storage supplies in the Eastern States were smaller, due to low holdings in Maine, but those in the Central and Western States were much larger than a year ago.

The lower stocks of eastern round white potatoes may keep them selling at good prices.

Other types, though, are in heavy supply, and the prospect for big new crops this year is good. (9)

What's New In Marketing Research

Among the new projects in marketing research to be undertaken by or for the Economic Research Service are:

An Equilibrium Analysis of the Production, Distribution and Marketing of Winter Vegetables. This study will be made to determine production and distribution patterns for winter vegetables produced in the Southeast and Southwest and shipped to market centers throughout the United States.

Winter vegetable production is worth \$410 million, not including the \$28 million in imports, mainly from Mexico. Conditions affecting the pricing of these November-through-May vegetables have been changing during the past decade.

Biggest change has been in stores' direct buying from the shipping points. In addition, large shippers have tended to set up agreements with growers.

In some cases, the price may be determined long before harvest time.

Research on competition for production inputs within the growing areas and interarea competition for national markets can aid in the decision-making of legislators, growers, shippers, industry groups and retail organizations. (10)

Frozen Foods Getting Cold Shoulder? Imaginative Display Could Aid Sales

Frozen food sales went up nearly 11 per cent from 1963 to 1964; a good gain, but gains in recent years have generally been below industry expectations.

In this day of supermarketizing, a product must be its own salesman. If it doesn't do the job, the homemaker tries another product, which she may like better and continue to buy.

It's here that the below-zero items may be handicapped against their room-temperature competitors. Canned and packaged foods come in umpteen sizes and shapes and lend themselves to original displays. In contrast, frozen foods—in their look-alike protective packaging—may barely peep over the freezer walls in their bid for the customer's eye.

While industry develops new cabinet shapes to permit more attractive displays, the food retailer must use imagination in boosting frozen food sales with present equipment.

There are opportunities for selling the consumer on the advantages of frozen foods in general and the merits of certain products in particular. Among these advantages: convenience of prepared meals such as meat pies and TV dinners and near-fresh taste of frozen fruits and vegetables.

Often the advantages come to the consumer's attention only when she reads the product's package or actually uses the frozen product. Larger, more conspicuous point-of-purchase material—posters and animated displays, for example—would attract more spontaneous buying based on the product's selling points.

Pricing and space allocation are also big factors in frozen food profits. Slow-selling items should be considered for price reduction or for elimination in favor of more popular goods. (11)

OUR FAVORABLE BALANCE OF FARM TRADE: The United States exports far more farm goods than it imports, nearly a third more, in fact. Counting both industrial and farm goods, our biggest trade partner—in both directions—is Canada. But when only agricultural items are considered, Canada drops behind Japan in purchases, and Brazil becomes our No. 1 supplier. Japan buys mostly cotton and soybeans while Canada takes fresh fruits and vegetables, corn and soybeans. Soybeans are also a big farm import for West Germany and the Netherlands. Coffee is our biggest single agricultural import. Though most of it comes from Brazil, coffee is also the leading agricultural import from Colombia, Mexico, the Ivory Coast and Angola.

The 1964 calendar year export total of \$6.3 billion reflects unusually large wheat exports to the Soviet Union during the first half of the year plus stepped-up shipments in anticipation of the 1965 dock strike. Exports in 1965 are expected to exceed the \$6.0 billion average of the past two calendar years.

Boldface type indicates importance of a country for either "all commodities" or "agricultural commodities" within an area. Although the value of agricultural imports from West Germany and the United Kingdom is relatively unimportant in Europe, all commodities imports are significant. On the other hand, agricultural imports from the Netherlands, Italy, France are significant. (12)

Source	All commodities	Agricultural commodities	Principal agricultural commodities ¹
	U.S. IMPORTS		
Thousand dollars			
Canada	4,226,728	175,844	Cattle, pork, barley, feeds and fodders, beef and veal, potatoes, wheat grain
Latin America	4,104,233	1,684,835	
Venezuela	957,507	19,810	Coffee
Brazil	534,875	471,205	Coffee
Europe	5,273,475	569,035	
West Germany	1,173,247	35,390	Malt liquors, hops, bristles, wines
United Kingdom	1,131,861	22,728	Wool, biscuits and wafers, horses, citrus fruit juices
Netherlands	216,271	73,250	Canned hams, tulip and other bulbs, cocoa and chocolate
Italy	525,645	71,998	Vermouth and other wines, cheese, canned tomatoes
France	493,788	65,780	Wines, essential oils
Asia	3,620,187	771,691	
Japan	1,763,416	40,119	Silk, canned mandarin oranges
Philippines	396,500	294,972	Sugar
Oceania	432,090	360,985	
Australia	273,866	211,207	Beef and veal
Africa	928,358	520,032	
Republic of South Africa	243,495	42,995	Wool
Ghana	77,835	60,955	Cocoa beans
Ivory Coast	64,036	60,705	Coffee
Total, all countries	18,599,860²	4,082,438³	
U.S. EXPORTS			
Destination			
Canada ⁴	4,653,210	615,092	Corn, soybeans, cotton, wheat, oranges
Latin America	4,103,575	603,869	
Mexico	1,026,320	75,314	Special food programs, hides, milk, tobacco, cattle, barley, soybean oil cake
Brazil	386,174	147,120	Wheat
Europe	8,168,589	2,741,871	
United Kingdom	1,444,652	439,824	Tobacco, corn, lard
West Germany	1,294,096	435,343	Soybeans, tobacco, cotton, corn
Netherlands	969,948	445,154	Corn, soybeans, grain sorghums, wheat, nonfat dry milk
Asia	5,176,924	1,948,841	
Japan	1,893,705	719,569	Cotton, soybeans, wheat
Oceania	736,695	46,868	
Australia	625,633	36,768	Tobacco, cotton
Africa	1,216,927	390,391	
Republic of South Africa	392,354	36,369	Rice, butter
Egypt (UAR)	267,812	190,798	Wheat, flour
Total, all countries	26,086,020⁵	6,346,950³	

¹ Commodities are half the agricultural shipments listed in order of dollar value. ² Includes \$11.7 million from unidentified countries. ³ Total includes minor exports and imports not listed. ⁴ Includes \$121 million of wheat, soybean and corn sent in-transit through the St. Lawrence Seaway for shipping to other countries. ⁵ Includes special (not published) exports of \$2 billion.

U.S. Had Favorable Terms of Trade In '65; Position Was Mixed Blessing

A product mix of leading U.S. agricultural exports earned \$102.80 during the year ended in September 1965 for every \$100 earned the year before. Conversely, we paid only \$96.20 during the recent year for leading imports that cost us \$100 a year earlier. Thus, it can be said that the United States, during the year ended in September 1965, had more favorable terms of trade for leading agricultural products than the year before.

Price developments of this kind are not necessarily an unmixed blessing. When trading partners must spend more for their imports from us and earn less from their exports they may have to reduce the amount of their purchases or borrow to finance them.

The higher aggregate export prices reflect substantially higher prices for our soybeans, soybean oil, inedible tallow and nonfat dry milk. Also, corn and rice prices were up slightly.

True, we got substantially less for wheat and slightly less for cotton and protein meal than in the previous year, but these declines weighed less than the increases.

On the import side, prices of

many major products—sugar, cocoa, rubber wool and hams—were lower during the year ended in September 1965 than the year before. The price of the leading import, coffee, was up on the average for the year even though coffee prices in the half year, April-September 1965, were substantially below a year earlier. Tobacco was imported at higher prices than the year before. (13)

Petroleum Is Algeria's Bright Hope As New Regime Faces Myriad Tasks

With the overthrow of President Ben Bella last June, Algeria's economy faces still another period of waiting and uncertainty.

The new regime inherited an economy already disrupted by seven years of armed rebellion against France and three years of independence marked by government nationalization of most industry and commercial farming.

Another factor in the economic slowdown has been the exodus of "middle management." The return to Europe after independence of French and other businessmen, technicians and commercial farmers—the men whose skills were the propelling force in Algeria's economy prior to independence—

has left a gap yet to be fully filled. Unemployment and unrest among unskilled laborers compound the problem.

On the plus side are Algeria's growing petroleum industry and the nation's still firm trade ties with France.

Until 1961, farm products—chiefly wine, hard wheat, citrus fruits and olive oil—accounted for over 70 per cent by value of Algeria's total exports each year. Since then, mounting petroleum sales have cut agriculture's share to less than half of total exports.

France buys about three-fourths of all Algerian exports and supplies 80 per cent of its imports. As a former French colony, Algeria still enjoys certain trade preferences in the French market.

Trade with the U.S. is very small. In 1964, we bought only about \$200,000 worth of Algerian farm products, mostly olives, olive oil, drugs, herbs and spices.

Algeria gets less than 10 per cent of its imports from the U.S. Because of limited hard currency reserves, what few U.S. products Algeria does take are mostly food-stuffs shipped under our Food-for-Peace program. In 1964 these aid foods came to \$22.4 million out of total U.S. farm shipments valued at \$37.2 million. (14)

Foreign Spotlight

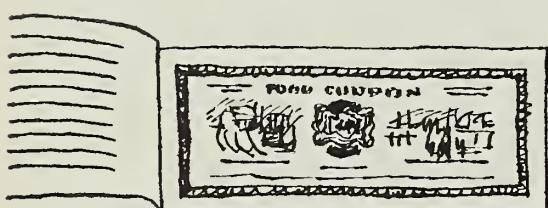
PARAGUAY. Exports of canned beef by Paraguay during 1965 increased by about a third over 1964's total. Spain was the principal buyer of the expected \$20 million shipments of 1965. The export quota of 220,000 head of cattle had been slaughtered by midyear and by September 22,700 metric tons of canned beef had been exported.

IRAN. The Iranian government has purchased 75,000 metric tons of refined sugar from the Soviet Union at a price reportedly equivalent to \$65.75 per metric ton. Iran will export cotton and other goods to the Soviet Union.

PORUGAL. Imported potatoes are in demand because the 1965 crop of 800,000 tons fell almost one-fourth below the previous year and the 1955-64 average. Recent purchases of 30,000 metric tons from European countries will not be sufficient to meet requirements. Total imports of potatoes before the next harvest probably will exceed the record 76,000 tons imported in 1963. Other likely imports are 75,000-100,000 metric tons of corn and 15,000 metric tons of rice. The good wheat crop last year has reduced import needs, but imports from the United States are still estimated at 120,000-140,000 metric tons as compared with 256,000 metric tons in the prior year. (15)

FOOD AID AT HOME: HERE TO STAY

It's incompatible with a land of plenty that people should go hungry or even undernourished. Some old and relatively new programs make food available to school children and, increasingly, to needy adults.



FOOD STAMPS

More than 1 million Americans will be eating more and better foods by June thanks to the Food Stamp Program. This will be an approximate doubling of the program during this fiscal year from the 632,000 people buying food coupons in June 1965. In time, the program may serve 4 million people.

The big increase expected this year is due to the fact that Congress, after a 3-year pilot test, made the Food Stamp Program a permanent one in August 1964.

At the end of the 3-year test period, 43 localities were covered by the program. By October 1965 the number had jumped to 127 in 29 states. More cities and counties will be added from time to time.

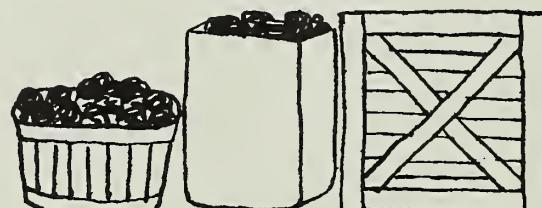
On the average, for each \$6 the participant puts into the program, he receives food coupons worth roughly \$10 in total.

During fiscal 1965, \$85.5 million in food coupons moved through retail food stores. Of this amount, \$32.5 million represented the added purchasing power given recipients by the free coupons.

In general, recipients pay an amount for the coupons that approximates food expenditures for a given family size and income. Those at the lower end of the low-income group, being most in need of food assistance, receive relatively more bonus coupons for their investment than those higher up the scale.

In June last year, nearly two-thirds of the people using food stamps were members of households getting public or general assistance, such as aid to the disabled, blind, aged and dependent children. The rest were members of low-income households, such as those of unemployed workers.

Specialists say that in years to come the Food Stamp Program may replace the Commodity Distribution Program in those areas desiring it.



FOOD DISTRIBUTION

Started back in 1932, the Commodity Distribution Program takes foods out of government stockpiles and makes them available to schools, needy families and charitable institutions.

Over a billion pounds of these foods, valued at \$227 million, were distributed during fiscal 1965. In an average month they went to about 5.3 million people in 1,590 counties and 237 cities.

Additional counties and cities made USDA-donated foods available to their needy families during fiscal 1965. This, together with the growing Food Stamp Program, brought USDA food assistance programs to more U.S. communities than ever before to help provide better diets to less fortunate citizens.

The food donation activity also was a significant factor in enabling needy children to enjoy school lunches in poorer areas.



SCHOOL LUNCH

This year there's going to be a special effort to get the lunch program into more schools where many children come from needy families and would qualify for lunches at reduced prices or free. Congress has appropriated \$2 million for a 1-year demonstration program.

In the Aid-to-Education Act of 1965, Congress also approved funds that may be used by local school districts to provide school lunch facilities.

Last year balanced lunches were available to more than 35 million children in over 70,000 schools across the nation. On a typical school day some 17 million lunches were served. The volume will probably run about 6 per cent higher this school year.

Some \$130.4 million in federal funds went last year toward paying the food cost, in part or in full, of lunches for needy children. In addition, government-held foods valued at \$272.4 million were donated to schools for the lunch program.

These federal contributions helped to hold lunch prices low enough to be within the means of most families.

Finally, specialists see a moderate increase in the Special Milk Program this year. Last year nearly 3 billion half-pints of milk were served to school children at prices below the cost of milk to the school. (16)

EFFECTS OF CHANGES IN GRAZING FEES AND PERMITTED USE OF PUBLIC RANGE-LANDS ON INCOMES OF WESTERN LIVESTOCK RANCHES. Farm Production Economics Division and Forest Service in cooperation with U.S. Department of Interior, Montana State College, University of Arizona and Utah State University. ERS-248.

Budgets of costs and returns for 85 representative ranches—69 cattle and 16 sheep—were developed to determine what effects different levels of grazing fees and a 20 per cent reduction in use of public lands would have on ranch incomes. Increases in grazing fees would have the greatest impact on the larger ranches and on the ranches that have yearlong grazing permits.

PROJECTIONS OF U. S. AGRICULTURAL CAPACITY AND INTERREGIONAL ADJUSTMENTS IN PRODUCTION AND LAND USE WITH SPATIAL PROGRAMMING MODELS. M. Skold, Farm Production Economics Division, and E. O. Heady, Iowa Agricultural Experiment Station, Ames. Iowa Agr. Expt. Sta. Res. Bul. 539.

Spatial linear programming models were used to help determine the degree of interregional shifts in grain production and land use implied for the future under specified conditions of technological improvement and population or demand growth.

IMPLICATIONS OF ALLOTMENTS ON OPTIMUM FARM ORGANIZATION AND SUPPLY RELATIONSHIPS IN TWO ALABAMA AREAS. N. R. Martin, Jr., and P. L. Strickland, Jr.,



recent publications

The publications listed here are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D. C., 20250. State publications may be obtained only by writing to the issuing experiment station or university after the title.

Farm Production Economics Division, and E. J. Partenheimer, Auburn University. Ala. Agr. Expt. Sta. Bul. 361.

The general purpose of this study was to determine the best enterprise combinations and total area production under alternative prices and acreage allotments for cotton and peanuts in the Limestone Valley and Wiregrass areas of Alabama. The study provides guidelines for use by farm policy

makers and those affected by policy changes.

PROFILE OF THE RETAIL FLORIST INDUSTRY, 1964. N. Havas, Marketing Economics Division. MRR-741.

The retail florist industry is comprised mainly of small, but hardy, businesses. This pamphlet gives a profile of florists. Details are given on advertising policies, feelings about phone and wire business, credit policies and pricing of flowers.

MERGERS AND ACQUISITIONS BY RETAIL GROCERY STORE COMPANIES, 1959-64. E. A. Cohn and L. N. Crutchfield, Marketing Economics Division. ERS-253.

During the period 1952-58 there were 253 acquisitions by retail grocery store companies for an average of 42 per year. Acquisitions in 1959-64 numbered about the same. This report brings available data up to date.

EFFECTIVENESS OF DEVELOPMENT CREDIT IN FACILITATING RURAL ADJUSTMENTS. R. A. Christiansen, Farm Production Economics Division, and S. D. Staniforth and R. Walter, Wisconsin Agricultural Experiment Station, Madison. Wisc. Agr. Expt. Sta. Ag. Ec. 45.

The price-cost squeeze in which many farmers are caught creates pressures for enlargement and consolidation of farms and the adoption of new technology. The purpose of this study was to examine and determine the role of development credit in facilitating present-day rural adjustments.

Numbers in parentheses at end of stories refer to sources listed below:

1. & 2. B. L. French (SM); 3. E. I. Reinsel (SM); 4. H. G. Sitler, Costs of Selected Sizes and Types of Farm Machinery on Colorado Wheat Farms, Colo. Agr. Expt. Sta. Unnumb. (P*); 5. Livestock and Meat Situation, LMS-146 (P); 6. G. W. Kromer, "Trends in U. S. Soybean Acreage and Production, 1947-65," Fats and Oils Situa., FOS-227 (P); 7. V. Wiser, Chronology of American Agriculture, 1790-1965, Unnumb. (P); 8. W. E. Clement, The Effect of Different Levels of Promotional Expenditures on Sales of Fluid Milk, ERS-259 (P); 9. Vegetable Situation, TVS-159 (P); 10. W. S. Hoofnagle (SM); 11. R. E. Frye, Are You Getting the Most Out of Your Frozen Food Sales? (S); 12. Foreign Development and Trade Division, U. S. For-

eign Agriculture by Countries, Calendar Year 1964 (Suppl.), Unnumb. (P); 13. H. G. Hirsch, "Review of 1965 Price Developments in the Foreign Agricultural Trade of the United States, For. Agr. Trade, Jan. '66 (P); 14. C. Santmyer, Algeria's Agricultural Economy in Brief, ERS-For. 131 (P); 15. J. W. Willett (SM); 16. R. Reese, "Food Distribution Outlook," Mktg. and Trans. Situa., MTS-159 (P); 17. Statistical Reporting Service, USDA, MP-968 (P).

*Speech (S); published report (P); unpublished manuscript (M); special material (SM); *State publications may be obtained only by writing to the experiment station or university cited.*

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Poll on Plantings

Three hundred and twenty thousand little buff-colored cards in rural mailboxes across the nation. Greetings from Uncle Sam? Well, in a way they are.

Each February state offices of the Statistical Reporting Service send the cards to select lists of farmers. The object is to get an estimate of the planned acreages of major crops to be grown during the coming season. The national and state estimates will be released March 18 in the Department of Agriculture's *Prospective Plantings Report*. The state offices also issue reports.

The questions on the cards apply only to the farm operated by the farmer receiving it (this includes any land he is renting). There are questions on fall and winter seeded crops—wheat, rye and barley. They ask both the acreage for harvest in 1966 and the acreage harvested in 1965.

The next section asks about the acreage of spring planted crops to be planted in 1966 and acres planted in these crops in 1965.

The remaining queries are on acreages in hay, orchards and vineyards and all other land uses (pasture, idle land, conservation reserve, feed grain diversion and so forth). The total should be all the land operated by the farmer.

Using the replies that the farmers send in, state statisticians prepare estimates for their states. These totals are then sent to Washington for preparing the national estimates.

The primary purpose of the plantings report is to assist growers generally in making last-minute changes in their crop plans. (17)

THE FARM INDEX

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